

The official office action dated July 31, 2003 has been carefully considered. Claims 1-5, 7-13, and 15-20 remain in the application. Claims 1 and 9 have been amended to include the  
20 limitations from claims 6 and 14, respectively, so as to clarify that the vessel is configured to engage a relatively stationary cabinet rather than a relatively stationary part of component. Claims 1, 9 and 20 have also been amended to clarify that the energy from the engagement vessel with the cabinet is “measured” rather than “determined” as described throughout the specification including at page 3, line 17. Claims 6 and 14 have been canceled. Since these changes do not  
25 involve the introduction of new matter and do not raise any new issues subsequent to final rejection, entry is believed to be in order and is respectfully requested.

Applicants believe the changes presented herewith, taken with the following remarks, are sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

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*Claim Rejections – 35 U.S.C. §103*

Claims 1-5, 7-13 and 15-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,765,161 to Williamson. As will be set forth in detail below, Applicants claimed invention is non-obvious and patentably distinguishable over Williamson.

35 Additionally, since claims 2-5, 7-8, 10-13 and 15-19 depend from and include the same distinctive features of one independent claims 1 and 9, these claims are also patentably distinguishable of Williamson. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

In accordance with the MPEP at §2142, to establish a prima facia case of  
40 obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

Second, there must be reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. As described in 45 detail below, none of the prongs of the above test, for numerous reasons, have not been met with respect to independent claims 1, 9 and 20. Accordingly, Applicants respectfully contend that claims 1-5, 7-13 and 15-20 are non-obvious and patentably distinguishable over the Williamson reference.

With respect to the third prong of the above test, Applicants cannot find any teaching or 50 suggestion in Williamson of several of the elements recited in independent claims 1, 9, and 20.

Independent claim 1 recites:

1. In an appliance with a relatively stationary cabinet and a rotatable vessel for holding a supply of material, a method comprising:  
 55            charging the vessel with the supply of material;  
               rotating the vessel about an axis;  
               causing the vessel to engage the relatively stationary cabinet by rapidly accelerating the rotation of the vessel;  
               measuring an amount of energy with which the vessel has engaged the relatively stationary cabinet following a start of the rapid acceleration;  
 60            comparing the amount of energy with a predetermined value; and  
               sending a signal indicative of an unbalance condition if the amount of energy exceeds the predetermined value.

Independent claim 9 recites:

9. (Currently Amended) An appliance comprising:  
 65            a vessel mounted for rotation about an axis, configured to receive a supply of material and arranged relative to a relatively stationary cabinet of the appliance whereby the vessel is configured to engage the relatively stationary cabinet in a severe unbalance loading condition of the material in the vessel while the vessel is rotating;  
 70            a control arranged and configured to rapidly accelerate a rotation of the vessel causing the vessel to engage the stationary cabinet, measure an amount of energy with which the vessel has engaged the relatively stationary cabinet, compare the amount of energy with a predetermined value, and send a signal indicative of an unbalance condition if the amount of energy exceeds the predetermined value.

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Independent claim 20 recites:

20. An appliance having a rotatable vessel configured to receive a supply of material mounted within a relatively stationary housing, the vessel rotatable about an axis and the vessel being mounted in a fashion such that it is movable relative to the housing in a direction perpendicular to the axis, comprising:  
               an electrical motor drivingly connected to the rotatable vessel,

a control operatively connected to the motor and configured to rapidly accelerate a rotation of the vessel through operation of the motor causing the vessel to engage the relatively stationary housing, measure an amount of energy with which the vessel has engaged the relatively stationary housing as reflected by a characteristic of electrical current drawn by the motor, compare the amount of energy with a predetermined value, and send a signal indicative of an unbalance condition if the amount of energy exceeds the predetermined value.

Most notably, Applicants can find no teaching or suggestion in Williamson of a method in an appliance with a relatively stationary cabinet and a rotatable vessel for holding a supply of material, where one of the steps of the method comprises the step of causing the vessel to engage the relatively stationary cabinet by rapidly accelerating the rotation of the vessel as recited in independent claim 1. Applicants can find no teaching or suggestion of an appliance comprising, among other elements, a control arranged and configured to rapidly accelerate a rotation of the vessel causing the vessel to engage a stationary cabinet as recited in claim 9 or of an appliance comprising, among other elements, a control operatively connected to the motor and configured to rapidly accelerate a rotation of the vessel through operation of the motor causing the vessel to engage the relatively stationary housing as recited in claim 20.

In other words, in each of the independent claims Applicants recite that the vessel “engages” or bumps a relatively stationary appliance cabinet or housing during a rapid acceleration of the vessel. Applicants measure the amount of energy with which the vessel engaged the relatively stationary cabinet or housing and compare that measurement to a predetermined value. If the amount of energy exceeds the predetermined value, a signal is sent which indicates an unbalanced condition.

In sharp contrast, U.S. Patent No. 4,765,161 to Williamson teaches an out-of-balance control for a laundry machine, that uses a “real-time”, current signal, proportionate to the power drawn by a motor in rotating the drum as an input signal for the control, which is entirely unlike Applicants invention. However, the Williamson reference also teaches in the Background section several prior art solutions that have been used to indicate an out-of balance condition for a laundry

machine, which the Examiner uses as the basis for his rejection. In this section, the Williamson applicants describe a mechanical means to detect displacement of a drum, which involves the use of a switch. The Examiner takes the position that a person of ordinary skill in the art at the time the invention was made would have been motivated to use the known mechanical means to detect load imbalance sensed by a control, with the disclosed method of determining energy which exceeds a predetermined value and signals an unbalanced condition in order to provide improved load unbalance control in an appliance mechanical load unbalanced detection.

Applicants emphatically disagree with the Examiners contention. Clearly the switch sketchily described in Williamson is not the cabinet or housing of the present invention. Contact switches have been used in the art to make “on”/“off” or “yes”/“no” determinations of whether there is contact between two parts. However, the present invention teaches the use of a cabinet or housing and a rotatable vessel being configured to engage the cabinet or housing with rapid acceleration. Accordingly, Applicants cannot find any teaching or suggestion of all the elements of the claimed invention in the Williamson reference as required in the third prong.

Moreover, Applicants cannot find any teaching or suggestion of a method comprising the step of measuring an amount of energy with which the vessel has engaged the relatively stationary cabinet following a start of the rapid acceleration as recited in independent claim 1. Applicants also cannot find any teaching or suggestion of an appliance comprising, among other elements, a control arranged and configured to measure an amount of energy with which the vessel has engaged the relatively stationary cabinet/housing as recited in independent claim 9 and independent claim 20.

Once again, the Williamson patent teaches an out-of-balance control for a laundry machine. The reference teaches that to avoid an unbalance problem, an input signal is provided from a variable frequency drive to an out-of-balance control. The input signal is a “real-time”, current signal, proportionate to the power drawn by a motor in rotating the drum. The variations in

strength of the signal are proportionate to the variations in the torque requirements for rotating the drum. In other words, the Williamson patent measures the current signal which is associated with the power drawn by the motor for rotating the drum, not the energy with which the vessel has engaged the relatively stationary cabinet/housing following a start of the rapid acceleration as recited in the claims.

Moreover, there is no teaching or suggestion on the Background section that the prior art solution of measuring the energy with which a vessel might impact a mechanical contact switch. As stated earlier, contact switches have limited sensitivity and, in fact, only have “yes”/“no” or “on”/“off” indications. Here, Applicants are actually measuring the amount of energy from the impact of the vessel with the cabinet, not simply a “yes”/“no” determination of whether there was an impact. The relevance of measuring the amount of energy in this impact is that not all impacts between the cabinet and vessel will result in a change of action, but only those that are deemed to be potentially harmful to machine operation. Hence the quantification of the energy overcomes the limitation of the mechanical switch which can only be set to determine a “contact/no-contact” condition. Accordingly, Applicants cannot find any teaching or suggestion of all the elements of the claimed invention in the Williamson reference as required in the third prong.

To establish *prima facia* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In Re Royka*, 490 F.2d 980; 180 U.S.P.Q. 580 (CCPA 1974). In this case, since Applicants can not find any teaching or suggestion in Williamson of several of the elements recited in independent claims 1, 9, 20, there is nothing that would lead one of ordinary skill in the art to attempt to modify the Williamson reference to include such elements. Accordingly, Applicants believe independent claims 1, 9 and 20 and claims 2-5, 7-8, 10-13 and 15-19, dependent thereon are non-obvious and patentably distinguishable over the Williamson reference.

With respect to the first prong of the above test, Applicants do not believe there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The MPEP states in section 706.02(j) that “to support that conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings.” Neither of these have occurred or are apparent from the Office Action. In particular, Applicants could not find any motivation or suggestion in the Williamson that would lead one of ordinary skill in the art to combine the teachings in the Background section of Williamson with the actual invention of Williamson. In fact, Applicants respectfully contend that one of ordinary skill in the art would not combine the teaching in the Background section with the actual invention in Williamson because the Williamson applicants believe their solution to be superior to the prior art solutions. Accordingly, it appears the Williamson applicants are teaching away from the prior art solutions described in the Background section in an effort to show their improvement.

Similarly, with respect to the second prong of the above test, Applicants do not believe there would be a reasonable expectation of success to combine the teachings of the references. Once again, Applicants believe that the Williamson applicants disclosed the prior art solutions to show that their solution was in some way superior. Applicants take the position that one would not have a reasonable expectation of success to combine the teachings in the Williamson reference, because the Williamson applicants were dismissing the Background solutions as inferior to their solution and essentially teaching away from the prior art. As a result, Applicants content that the second prong of the above test has not been met.

For the reasons presented above, it is believed that the application, as now presented, is in condition for allowance, and that there are no remaining issues in the application. Allowance of the application as now presented, and passing of the application to issue are respectfully solicited.

If for any reason the Examiner feels that this amendment does not so place the application in condition for allowance, it is respectfully requested that he promptly contact applicants undersigned attorney by telephone at the number shown below so that suitable steps may be taken to place the application in such condition.

Further and favorable action is respectfully requested.

Respectfully submitted,

  
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Dated: 9-18-03

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**CERTIFICATE OF MAILING (37 CFR 1.8a)**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Box Non-Fee Amendment, Commissioner for Patents, Alexandria, VA 22313-1450.

Date: Sept. 18, 2003

  
Barbara L. Katowich